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Mr. George W. Childs, Mr. George M. Woodward, Mr. Thomas Guilford Smith, Mr. William Forster Jones, and the Rev. E. R. Beadle.

Pursuant to the By-Laws, an election of members of the Standing Committees for the ensuing year was held, as follows :

*ETHNOLOGY.*

J. A. MEIGS,  
S. S. HALDEMAN,  
F. V. HAYDEN.

*COMP. ANAT. AND GEN. ZOOLOGY.*

H. ALLEN,  
W. S. W. RUSCHENBERGER,  
J. H. SLACK.

*MAMMALOLOGY.*

J. H. SLACK,  
E. D. COPE,  
H. ALLEN.

*ORNITHOLOGY.*

J. CASSIN,  
S. F. BAIRD,  
HENRY BRYANT.

*HERPETOLOGY AND ICHTHYOLOGY.*

E. D. COPE,  
TH. NORRIS,  
ROBERT BRIDGES.

*CONCHOLOGY.*

GEO. W. TRYON, JR.,  
ISAAC LEA,  
T. A. CONRAD.

*ENTOMOLOGY AND CRUSTACEA.*

JNO. L. LE CONTE,  
J. H. B. BLAND,  
H. C. WOOD, JR.

*BOTANY.*

ELIAS DURAND,  
C. H. PARKER,  
C. E. SMITH.

*GEOLOGY.*

ISAAC LEA,  
J. P. LESLEY,  
F. V. HAYDEN.

*MINERALOGY.*

W. S. VAUX,  
J. C. TRAUTWINE,  
J. A. CLAY.

*PALÆONTOLOGY.*

T. A. CONRAD,  
JOSEPH LEIDY,  
F. V. HAYDEN.

*PHYSICS.*

ROBERT BRIDGES,  
R. E. ROGERS,  
JACOB ENNIS.

*LIBRARY.*

JOSEPH JEANES,  
JOSEPH LEIDY,  
JOHN CASSIN.

*PROCEEDINGS.*

JOSEPH LEIDY,  
W. S. VAUX,  
JOHN CASSIN,  
ROBERT BRIDGES,  
GEO. W. TRYON, JR.

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*February 6th.*

MR. VAUX, Vice President, in the Chair.

Twenty-eight members present.

The following was presented for publication : " A Critical Review of the Family Procellariidæ," by Elliot Coues, M. D., U. S. A.

Prof. E. D. Cope presented to the Academy a specimen of *Nautilus*, obtained by him from the owner of " Heritages," Marl Pits, Glassboro, New Jersey, who stated to him that it had been found in those diggings. The identity of the matrix with that surrounding specimens of *Teredo tibialis*, and *Terebratula* 1863.]

fragilis and Harlani, taken from that bed by Prof. C., seemed conclusive on this point. The species is an *Aturia*, and the first found in the cretaceous formation of New Jersey, though W. M. Gabb had discovered one perhaps the same in the cretaceous of California. It has some resemblance to the *zic-zac*, but presents fewer and more distant septa, longer chambers, and the parietal processes of the septa more divaricate and less dorsally situate. It differs from the *A. Alabamensis* (Morton) by the same features, and in the smaller siphuncle and much less parallel septa. The following are its characters :

Uncovered chambers nine ; septary process elongate, acuminate, shallow, diverging outward from a spiral line joining their bases ; well separated from the succeeding septa ; dorsal portions of the septa short, very excentric as regards each other ; ventral portions opposite them, forming nearly a right angle with the ventral outline. Siphuncle small, more dorsal than the end of the dorsal fourth of the diameter. Ventral face broad rounded ; septal processes scarcely visible on the ventral view. Diameter of the last chamber 3 in. 11 l. ; of first visible (at siphuncle) 22 l. Median diameter (from penultimate chamber) 8 inches.

This species most resembles *Nautilus Parkinsoni*, which cannot be far removed from *Aturia*. In it the septary process approaches closely the succeeding septum ; while in the *A. pancifex* they fall far short of the latter, and are more divaricate ; the siphuncle is less dorsally situate, measuring one-fourth the diameter in the former. In *A. Agastata*, Conrad, from the Eocene of Oregon, there is much resemblance, but that animal is much more like the *zic-zac* ; its septary processes are not divaricate and but little separated ; the dorsal portion of the septary wall instead of being opposite its ventral portions is opposite that of the septum next anterior. The nearest ally is the *A. Mathewsonii* Gabb. It appears to differ in the small siphuncle, and obliquely truncate and divaricate septary processes, and the relatively much shorter median or ventral portion of the septary margins. My friend T. A. Courad's opinion as to the peculiarities of this species is confirmatory of my own.

Dr. Leidy read several extracts from a letter of Dr. Gideon Lincecum, addressed to Mr. Durand, dated Long Point, Texas, Dec. 24, 1865. One of the extracts related an interesting account of an ant battle, witnessed by Dr. Lincecum, as follows :

"The large, black tree ants have exceedingly destructive wars sometimes with their own species. Like the honey bee, they maintain separate and distinct governments, or hives, and between these, as far as my observation goes, there is no commerce or intercourse of any description. But they have territorial claims and quarrels ; and these quarrels are occasionally decided on the battle field. As they are equal in physical strength and the science of war, the amount of life that is destroyed in one of their national conflicts is sometimes very great. I have seen left on one of their battle fields at least a gallon of the slain. They were not dead, but they were in a far more lamentable condition. Their legs having been all trimmed off ; they lay on the ground amongst the scattered fragments of their dismembered limbs, wallowing and writhing their legless bodies, in an agony of sullen, mad, hopeless despair.

This disastrous engagement took place in the little front yard of my office, on the evening of the 10th of July, 1855. There were considerable numbers engaged in battle when I first observed them. They were madly fighting in a hand to hand conflict, and reinforcements were momentarily arriving to both armies. The battle had now become general, and was raging over an area of 15 to 20 feet in diameter. It was 4 P. M., and placing a chair in a convenient situation for observation, I seated myself, for the purpose, if possible, of ascertaining the cause of the difficulty, and to note their mode of warfare. I was not present at the commencing of the battle, and now, while it was wildly raging, could not find out the cause of it. It was not long, however, until I

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discovered that the belligerent parties were the subjects of two neighboring kingdoms, or hives, each of which, as I could distinguish, by the arrival of their reinforcements, were coming from two different post-oak trees, which were standing about fifty yards apart, and the office-yard being very nearly the half-way ground, afforded me good opportunity to determine that the contending parties belonged to distinct communities, and not to the same hive.

The battle continued unabated, until the darkness of the night prevented further observation. I left them to their fate, with my feelings so highly excited that I did not rest well that night. Before sunrise the next morning I visited the battle field, and found it thickly strewn with the legless, hapless warriors, as described above. There could not have been less than 40,000 left on the ground who were utterly incapacitated to help themselves. A few of them had a single leg left. With this they made shift to pull themselves incessantly around in a very limited circle. The larger proportion of them lay prostrate, writhing and doubling, and vainly straining their agonized, limbless bodies in a state of mental abandonment and furious desperation. Few were dead. All the dead ones that I saw, did not exceed perhaps a hundred; and these were found universally in pairs, mutually grappling each other by the throat. With a few of these pairs of unyielding warriors, life was not entirely extinct. My sympathies being painfully excited, I made an effort, where there were signs of vitality, to separate them. In this I did not succeed. On closer scrutiny, I found that they had fixed their caliper-like mandibles in each others throat, and were gripped together with such inveterate malignity, that they could not be separated without tearing off their heads.

I had swept them up in a heap, and as the most humane method of curtailing the wretched condition of the poor, ruined victims of the bloody strife I could think of, was making a hole in the ground, with the intention of entombing the whole of them, Whig and Tory together, and by filling the grave with water, drown them. But before I had completed my arrangements, there came a heavy shower of rain, which soon overwhelmed them with mud and water, thereby relieving me from the painful task.

It is perhaps nothing amiss to state here, that among the slain—the vanquished—I saw no type of the species, except the neutrals, or working type. As on the ensanguined fields of the arrogant genus homo, the conjuring priests and better bloods of the self-created nobility, after raising the *fuss*, had found it convenient to have business in some safer quarter.

This ant dwells in live trees, in large swarms, or more properly communities, and feeds principally on insects. On this account he is useful. It is a fortunate thing for any family to have a large tree near their dwelling that contains a community of this civil but warlike species of ant.

Near the western corner of my dwelling, for eight years, stood a post oak tree—*Quercus obtusiloba*—which contained a quite populous community of the black tree ant in question. During the eight years that the tree survived, it was the custom of these ants to visit every portion of the house, every night in warm weather; search out all hidden cracks and crevices, in walls, bedsteads, and furniture, in fact, travel over every thing about the house, except the clothing; upon any woven texture they do not travel. In all that eight years, we had no fleas, bed bugs, or any other insect annoyances. But when the tree died, in which they had their home, they went away, and we have missed them much, as, since their departure, we have been forced to scald and wash out the house often, to clear it of annoying insects. We should be happy in the acknowledgment of our dependence on the services of another such community.

This species of ant is the largest that is found in Texas. He is quite black, and disdaining the grovelling habits of the burrowing tribes of the genus, he constructs his habitation in the live trees. As far as my observation goes, however, he dwells only in the cedars and post oaks. Very seldom found in a tree that has been long dead. In the construction of the habitation for the  
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accommodation of the community, he displays a degree of forethought, skill and ingenuity, which is arrogantly claimed to belong only to the genus homo.

In the first place, a single female winged ant selects a live tree, in a locality favorably situated for the peculiar habits of the species, and the growth of the insects upon which it feeds mainly. She now seeks out some small crevice, dead limb, or wind crack in the tree, and cutting off her wings, which are no longer useful, but in the way, she commences the work of boring and chiseling out suitable apartments for the coming community. This she accomplishes by cutting away the firm, sound wood of the growing tree, until she has completed a sufficient number of apartments, or cells, in which to deposit her eggs, and this ends her labors. Very soon—12 days—she has produced a swarm of neutrals, who go to work collecting food and extending the cells to suit the growing population, until, as I have often witnessed, the inner portion of the tree will be cut into singularly constructed cells to the extent of 6 or 7 feet, without greatly diminishing its strength."

Other extracts from the letter, in relation to certain species of grapes of Texas, are as follows:

"I am familiar with Buckley's *V. monticola*, and am pleased that it has at last been named, and placed in scientific classification. I am not right sure that all the Texas grapes have yet been noted. I think it quite probable that future industry and close scientific scrutiny will develop other species and varieties, particularly when the investigator penetrates the valleys and gulches of our exceeding rough mountain ranges."

"In reference to the Post oak grapes, there are two species here that are known among the people as the '*Post oak grape*.' They are found in the Post oak lands. The one I sent you flourishes best in the very sandy elevations, with the bitter-fruited Post oak. This species does not rise exceeding four or five feet; it is more of a bush than a vine. The berry is large and sour, but its odor is very fine. The other species is sometimes found in the same soil, alongside of the first, but more frequently in better soil, always, however, in Post oak lands, which as a general thing, are more or less sandy. This species is a climbing vine, running over the tops of the trees, bearing heavy crops of large grapes. These are also too sour for a table grape; they produce a very palatable wine, which, very probably, might be greatly improved by cultivation."

"Mr. G. J. Durham, (my son-in-law,) examined your description of the *Vitis monticola* to-day. He says Buckley is right about it being the best American grape, but has never seen such large clusters as you describe; has eat of the fruit, which he describes as maturing in September; that the berry when ripe, is of a medium size, bright green, sprinkled with black dots, very sweet, and that the vine sometimes attains to the height of ten or eleven feet. It is almost universally found among, and clambering on the rocks, on dry limestone elevations. That it is not very abundant, &c., all of which I know to be correct. The other small mountain black grape is more abundant, and is also quite sweet. It occupies lower grounds than the *V. monticola*, being found mostly in the heads of the ravines, running on the dogwood trees in such quantities, that he, Durham, has seen them, towards the latter part of September, when the leaves had all shed off, and in many places where the vines had matted the tops of the dogwoods, impart a blue caste to the whole scenery, even at a mile's distance. Companies of soldiers have been known to subsist upon them alone, two or three days at a time, and no ill results arose from it. This last grape is called by the people of that country, 'sugar grape,' and is highly esteemed by all who have a knowledge of it. They will travel a great way at the proper season to procure them. The soldiers who are stationed in or near the mountains will go 30 or 40 miles after them. And yet, I have never heard of an attempt to domesticate either of the mountain species.

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It is at least 150 miles from my place to where they are found in any degree plenty. The excursions I have made in that direction have always been during the summer months, consequently I have only seen them in about a half-grown state. All the mature fruit I have seen were brought by travellers from that country."

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*February 13th.*

MR. VAUX, Vice-President, in the Chair.

Thirty-four members present.

The following deaths were announced :

Mr. Charles A. Poulson, Feb. 8, Member. Dr. William P. Grier, U. S. A., Jan. 28, Member. Mr. Lovell Reeve, of London, Correspondent.

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*February 20th.*

MR. VAUX, Vice-President, in the Chair.

Twenty-five members present.

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*February 27th.*

MR. CASSIN, Vice-President, in the Chair.

Twenty members present.

The Committee on Proceedings placed on the table the fifth number of the published Proceedings, for November and December, 1865.

The following gentlemen were elected members of the Academy :

Mr. William R. White, Mr. John E. Graeff, Mr. William Evans, Jr., Mr. Edward R. Wood, Mr. Philip C. Garrett and Mr. Charles Harts-horne; and Mr. Geo. W. Clinton, of Buffalo, N. Y., was elected a Correspondent.

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*March 6th.*

DR. BRIDGES in the Chair.

Sixteen members present.

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*March 13th.*

MR. CASSIN, Vice-President, in the Chair.

Twenty-four members present.

Mr. Lea read an extract from a letter of Prof. Courtland, on the gradual extinction of the western Unionidæ.

A paper was presented for publication, entitled "A List of Birds of Arizona, &c.," by Elliot Coues, M. D., U. S. A.

Prof. E. D. Cope exhibited a cranium of a Black Fish (*Globicephalus*) found on the western shore of Delaware Bay by Cornelius Gregory. *Comparison 1866.*]